

Amendments to the Claims:

What is claimed is:

1. (Original) A system for selectively restricting the radio frequency transmission of a cellular telephone within a defined restricted-communication area, comprising:

a transmitter for generating a control signal at an entrance to the restricted-communication area, said transmitter having a broadcast area not being coextensive with the restricted-communication area;

the cellular telephone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier;

a receiver subsystem within the cellular phone responsive to said control signal, for generating a restricted-communication signal upon receipt of said control signal and for a predetermined time thereafter; and

a transmitter-inhibited subsystem responsive to said restricted-communication signal that inhibits said radio-frequency carrier transmission within the restricted-communication area.

2. (Original) A system as defined in claim 1 wherein said control signal is ultrasonic.

3. (Original) A system as defined in claim 2 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

4. (Original) A system as defined by claim 1 wherein said control signal is infrared.

5. (Original) A system as defined by claim 1 wherein said control signal is a radio frequency signal.

6. (Original) A system for selectively restricting the radio frequency transmission of a cellular telephone within a defined restricted-communication area, comprising:

a first transmitter for generating a first control signal at an entrance to a restricted-communication area, said first transmitter having a broadcast area not being coextensive with the restricted-communication area, and said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

a second transmitter for generating a second control signal at an exit from a restricted-communication area, said second transmitter having a broadcast area not being coextensive with the restricted-communication area, and said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

the cellular phone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier;

a receiver subsystem within the cellular phone responsive to said control signals, for generating a restricted-communication signal upon receipt of said first control signal for a predetermined time or until receipt of said second control signal; and

a transmitter-inhibit subsystem, responsive to said restricted-communication signal, that can inhibit said radio-frequency carrier transmission within the restricted-communication zone.

7. (Original) A system as defined in claim 6 in which said control signal is ultrasonic.

8. (Original) A system as defined in claim 7 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

9. (Original) A system as defined in claim 6 wherein said control signal is infrared.
10. (Original) A system as defined in claim 6 wherein said control signal is a radio frequency signal.
11. (Original) A system for selectively restricting the radio frequency transmission of a cellular telephone within a defined restricted-communication zone, comprising:

a plurality of transmitters for repetitively generating a control signal within the restricted-communication area, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

a synchronization subsystem whereby at least one said control signal transmitters are prevented from transmitting while another said control signal transmitter transmits its control signal, each said control transmitter transmitting its control signal repetitively within a maximum time interval between said transmissions;

the cellular phone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier;

a receiver subsystem within the cellular phone responsive to said control signal, for generating a restricted-communication signal upon receipt of said control signal and for a time longer than the longest time between any said control signal transmitters' sending consecutive signals; and

a transmitter-inhibit subsystem responsive to said restricted-communication signal that can inhibit said radio-frequency carrier transmission within the restricted-communication area.

12. (Original) A system as defined by claim 11 wherein said synchronization subsystem uses common 60 Hz household power to establish which of said transmitters send their control signal during each half of the 60 Hz cycle.
13. (Original) A system as defined by claim 11 wherein said control signal is ultrasonic.
14. (Original) A system as defined in claim 13 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.
15. (Original) A system as defined by claim 11 wherein said control signal is infrared.
16. (Original) A system as defined by claim 11 wherein said control signal is a radio frequency signal.
17. (Original) A cellular telephone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier, wherein said radio frequency transmission is inhibited upon receipt of a control signal generated at the entrance to a defined restricted-communication area, said cellular telephone comprising:
- a receiver subsystem within the cellular phone responsive to said control signal, for generating a restricted-communications signal upon receipt of said control signal, and for a predetermined time thereafter; and
 - a transmitter-inhibit system responsive to said restricted-communication signal that inhibits said radio-frequency carrier transmission within the restricted-communication area.
18. (Original) A cellular telephone as defined in claim 17 wherein said control signal is ultrasonic.

19. (Original) A cellular telephone as defined in claim 18 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

20. (Original) A cellular telephone as defined in claim 17 wherein said control signal is infrared.

21. (Original) A cellular telephone as defined by claim 17 wherein said control signal is a radio frequency signal.

22. (Original) A cellular telephone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier, wherein said radio frequency transmission is inhibited upon receipt of a first control signal generated from a first control signal transmitter at an entrance to a defined restricted-communication area, and re-enabled upon receipt of a second control signal generated from a second control signal transmitter at an exit from said defined restricted-communication area, said cellular telephone comprising:

a receiver subsystem within the cellular phone responsive to both said control signals, for generating a restricted-communication signal upon receipt of said first control signal until receipt of said second control signal; and

a transmitter-inhibit subsystem responsive to said restricted-communication signal that can inhibit said radio-frequency carrier transmission within the restricted-communication area.

23. (Original) A cellular telephone as defined in claim 22 wherein said control signal is ultrasonic.

24. (Original) A cellular telephone as defined in claim 23 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

25. (Original) A cellular telephone as defined in claim 22 wherein said control signal is infrared.

26. (Original) A cellular telephone as defined in claim 22 wherein said control signal is a radio frequency signal.

27. (Original) A cellular telephone including a subsystem for transmitting a cellular telephone audio signal on a radio-frequency carrier, wherein said radio frequency transmission is inhibited upon receipt of a control signal generated from any of a plurality of control signal transmitters within a defined restricted-communication area, in which a synchronization subsystem coupled to said transmitters causes at least one said control signal transmitter to avoid transmitting while another said control signal transmitter transmits its control signal, each said control transmitter transmitting its control signal repetitively with a maximum time interval between said transmissions, said cellular telephone comprising:

a receiver subsystem within the cellular phone responsive to said control signal, for generating a restricted-communication signal upon receipt of said control signal and for a time thereafter greater than said maximum time interval; and

a transmitter-inhibit subsystem responsive to said restricted-communication signal that can inhibit, for a predetermined time, said radio-frequency carrier transmission within the restricted-communication area.

28. (Original) A cellular telephone as defined in claim 27 wherein said control signal is ultrasonic.

29. (Original) A cellular telephone as defined in claim 28 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

30. (Original) A cellular telephone as defined in claim 27 wherein said control signal is infrared.

31. (Original) A cellular telephone as defined in claim 27 wherein said control signal is a radio frequency.

32. (Original) A method for selectively restricting the emission of a radio frequency signal from a cellular telephone within a defined restricted-communication area, comprising of the steps of:

generating a control signal at an entrance to said restricted-communication area said control signal not being coextensive with said restricted-communication area, and said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

generating a restricted-communication signal within the cellular phone upon receipt of said control signal, and for a predetermined time thereafter; and

applying the restricted-communication signal to the radio frequency transmitter to inhibit its emission within the restricted-communication zone.

33. (Original) A method as defined in claim 32 wherein said control signal is ultrasonic.

34. (Original) A method as defined in claim 33 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

35. (Original) A method as defined in claim 32 wherein said control signal is infrared.

36. (Original) A method as defined in claim 32 wherein said control signal is a radio frequency signal.

37. (Original) A method for selectively restricting the emission of a radio frequency signal from a cellular telephone within a defined restricted-communication area, using a first control signal transmitter at an entrance to said area and using a second control signal transmitter at an exit to said area comprising the steps of:

generating a first control signal at an entrance to said restricted-communication area, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

generating a second control signal at an exit from said restricted-communication area, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

generating a restricted-communication signal within the cellular phone upon receipt of said first control signal, until receipt of said second control signal; and

applying the restricted-communication signal to the radio frequency transmitter to inhibit transmission within the restricted-communication zone.

38. (Original) A method as defined in claim 37 wherein said control signal is ultrasonic.
39. (Original) A method as defined by claim 38 wherein the cellular telephone includes a microphone responsive to the voice of the user, said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.
40. (Original) A method as defined in claim 37 wherein said control signal is infrared.
41. (Original) A method as defined in claim 37 wherein said control signal is a radio frequency signal.
42. (Original) A method for selectively restricting the emission of a radio frequency signal from a cellular telephone within a defined restricted-communication area using a plurality of control signal transmitters which are coupled to a synchronization mechanism, comprising the steps of:
- generating synchronization signals to enable said control signal transmitters, such that each said transmitter is enabled to send the control signal within a maximum time interval after it sent the previous control signal;
 - generating, from each enabled control signal transmitter, a control signal within the defined restricted-communication zone, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;
 - generating a restricted-communication signal within the cellular phone upon receipt of said control signal, and for a predetermined time thereafter that is larger than said maximum time interval; and

applying the restricted-communication signal to the transmitter to prevent transmission of the radio frequency signal within the restricted-communication zone.

43. (Original) A method as defined in claim 42 wherein said synchronization signals uses common 60 Hz household power to establish which of said transmitters send their control signal during each half of the 60 Hz cycle.

44. (Original) A method as defined in claim 42 wherein said control signal is ultrasonic.

45. (Original) A method as defined in claim 44 wherein said cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

46. (Original) A method as defined in claim 42 wherein said control signal is infrared.

47. (Original) A method as defined in claim 42 wherein said control signal is a radio frequency signal.

48. (Original) A system for selectively restricting the ringing operation of a cellular telephone within a defined quiet zone, comprising:

a plurality of transmitters for repetitively generating a control signal within the quiet zone, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

a synchronization subsystem whereby at least one said control signal transmitter is prevented from transmitting while at least one other said control signal transmitter transmits its control signal, each said control transmitter transmitting its control signal repetitively within a maximum time interval between said transmissions;

the cellular telephone including a ringer circuit subsystem for audibly signaling the receipt of a call;

a receiver within the cellular phone responsive to said control signal for generating a muting signal upon receipt of said control signal and for a time thereafter longer than the longest time between any said control signal transmitter's repetition rate; and

a muting circuit subsystem responsive to said muting signal for inhibiting the operation of said ringer circuit subsystem, to inhibit ringing of said cellular phone within the quiet zone.

49. (Original) A system as defined in claim 48 wherein said synchronization subsystem uses common 60 Hz household power to establish which of said transmitters send their control signal during each half of the 60 Hz cycle.

50. (Original) A system as defined in claim 48 wherein said control signal is ultrasonic.

51. (Original) A system as defined in claim 50 wherein the cellular telephone includes a microphone responsive to the voice of the user and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

52. (Original) A system as defined in claim 48 wherein said control signal is infrared.

53. (Original) A system as defined in claim 48 wherein said control signal is a radio frequency signal.

54. (Original) A cellular telephone wherein its ringing is inhibited upon receipt of a control signal generated from any of a plurality of control signal transmitters within a defined quiet zone, in which a synchronization subsystem coupled to said transmitters causes at least one said control signal transmitter to avoid transmitting while at least

one other said control signal transmitter transmits its control signal, each said control transmitter transmitting its control signal repetitively with a maximum time interval between said transmissions, said cellular telephone comprising:

a ringing circuit for audibly signaling the receipt of a call;

a receiver responsive to the control signal for generating an internal muting signal upon receipt of the control signal and for a period of time thereafter longer than said maximum time interval; and

a muting circuit responsive to said muting signal for inhibiting the operation of said ringing circuit, with receipt of said control signal to inhibit ringing of the telephone in the quiet zone.

55. (Original) A cellular telephone as defined in claim 54 wherein said synchronization subsystem uses the common 60 Hz power cycle.

56. (Original) A cellular telephone as defined in claim 54 wherein said control signal is ultrasonic.

57. (Original) A cellular telephone as defined in claim 56 wherein the cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

58. (Original) A cellular telephone as defined in claim 54 wherein said control signal is infrared.

59. (Original) A cellular telephone as defined in claim 54 wherein said control signal is a radio frequency signal.

60. (Original) A method for selectively restricting the operation of the ringer of a cellular telephone within a defined quiet zone using a plurality of control signal transmitters, comprising the steps of:

generating synchronization signals to enable said control signal transmitters, such that each said enable is generated within a maximum time interval after it was last sent;

generating, from each enabled control signal transmitter, a control signal within the defined quiet zone, said control signal being different from the electromagnetic signal conveying said cellular telephone audio signal;

generating a muting signal within the cellular phone upon receipt of said control signal and for a time thereafter longer than said maximum time interval; and

applying the muting signal to the ringer circuit to inhibit operation concurrently with the receipt of the control signal to prevent ringing of the telephone within the quiet zone.

61. (Original) A method as defined in claim 60 wherein said synchronization signals uses common 60 Hz household power to establish which of said transmitters send their control signal during each half of the 60 Hz Cycle.

62. (Original) A method as defined by claim 60 wherein said control signal is ultrasonic.

63. (Original) A method as defined in claim 62 wherein said cellular telephone includes a microphone responsive to the voice of the user, and said control signal receiver microphone is responsive to the voice of the user, and said control signal receiver subsystem utilizes said microphone for receiving said ultrasonic control signal.

64. (Original) A method as defined by claim 60 wherein said control signal is infrared.

65. (Original) A method as defined by claim 60 wherein said control signal is a radio frequency signal.

66. (New) A system for selectively restricting radio frequency transmissions of a restricted-device within a restricted-communication area, the restricted device including a receiver, a device transmitter and a microcontroller operatively coupled to the device transmitter and receiver, the system comprising:

a first transmitter adapted to generate a first control signal, the first transmitter located proximate to the restricted-communication area; and

a second transmitter adapted to generate a second control signal, the second transmitter located proximate to the restricted-communication area at a predetermined distance from the first transmitter,

wherein the microcontroller is configured to monitor the first and second control signals transmitted by the first and second transmitters and received via the receiver, and to control radio frequency transmissions from the device transmitter based on the order of receipt of the first control signal and the second control signal.

67. (New) The system of claim 66, wherein in response to receipt of the first control signal followed by receipt of the second control signal within a first predetermined time period, the microcontroller disables the device transmitter to prevent radio frequency transmissions for a second predetermined time period, and wherein in response to

receipt of the second control signal followed by receipt of the first control signal within a third predetermined time period, the microcontroller enables the device transmitter to permit radio frequency transmissions.

68. (New) The system of claim 66, wherein the restricted device is selected from the group consisting of a cellular telephone, a PDA, a pager, and a wrist watch.

69. (New) The system of claim 66, wherein each of the first and second control signals are implemented using a wireless technology selected from the group consisting of an ultrasound technology, an infrared technology, and a radio frequency technology.

70. (New) The system of claim 69, wherein the restricted device further comprises a microphone coupled to the microcontroller, the microphone adapted to receive the first and second control signals implemented using the ultrasound technology.

71. (New) The system of claim 66, wherein the first transmitter is located proximate to an entrance of the restricted-communication area, and wherein the second transmitter is located proximate to an interior location of the restricted-communication area.

72. (New) A method for selectively restricting the radio frequency transmissions of a restricted device within a restricted-communication area, the restricted device including a receiver, a device transmitter, and a microcontroller operatively coupled to the device transmitter and the receiver, the method comprising:

receiving a first control signal from a first transmitter located proximate to the restricted-communication area;

receiving a second control signal from a second transmitter located proximate to the restricted-communication area; and

controlling radio frequency transmissions from the device transmitter based on an order of receipt of the first control signal and the second control signal.

73. (New) The method of claim 72, further comprising:

disabling the device transmitter to prevent radio frequency transmission for a first predetermined time period upon receipt of the first control signal followed by receipt of the second control signal within a second predetermined time period; and

enabling the device transmitter to permit radio frequency transmission upon receipt of the second control signal followed by receipt of the first control signal within a third predetermined time period.

74. (New) The method of claim 72, wherein the restricted device is selected from the group consisting of a cellular telephone, a PDA, a pager, and a wristwatch.

75. (New) The method of claim 72, wherein each of the first and second control signals are implemented using a wireless technology selected from the group consisting of an ultrasound technology, an infrared technology, and a radio frequency technology.

76. (New) The method of claim 75, wherein the restricted device further comprises a microphone coupled to the microcontroller, the microphone adapted to receive the first and second control signals implemented using the ultrasound technology.

77. (New) The method of claim 72, wherein the first transmitter is located proximate to an entrance of the restricted-communication area, and wherein the second transmitter is located proximate to an interior location of the restricted-communication area.

78. (New) A portable restricted device configured to transmit and receive radio frequency transmissions, the portable restricted device comprising:

a radio frequency transmitter;

a receiver; and

a microcontroller operatively coupled to the radio frequency transmitter and receiver,
the microcontroller comprising a microprocessor and memory,

the microcontroller being programmed to control radio frequency
transmissions from the radio frequency transmitter based on an order of
receipt by the receiver of a first control signal and a second control signal.

79. (New) The portable restricted device of claim 78, wherein in response to receipt of the first control signal followed by receipt of the second control signal within a first predetermined time period, the radio frequency device transmitter is disabled to prevent radio frequency transmissions for a second predetermined time period, and wherein in response to receipt of the second control signal followed by receipt of the first control signal within a third predetermined time period, the radio frequency transmitter is enabled to permit radio frequency transmissions.

80. (New) The portable restricted device of claim 80, wherein the portable restricted device further comprises a microphone coupled to the microcontroller, the microphone adapted to receive the first and second control signals implemented using the ultrasound technology.

81. (New) The portable restricted device of claim 80, wherein the first and second control signals are comprised of ultrasonic control signals and the portable restricted device further comprises a microphone coupled to the microcontroller and is configured to receive the first and second ultrasonic control signals.

82. (New) The portable restricted device of claim 78, wherein the portable restricted device is selected from the group consisting of a cellular telephone, a PDA, a pager, and a wrist watch.

83. (New) A system for selectively muting a restricted device within a defined area, the restricted device including a receiver, an audible notification mechanism, and a microcontroller operatively coupled to the receiver and audible notification mechanism, the system comprising:

a first transmitter adapted to generate a first control signal, the first transmitter located proximate to the defined area; and

a second transmitter adapted to generate a second control signal, the second transmitter located proximate to the defined area at a predetermined distance from the first transmitter,

wherein the microcontroller is programmed to monitor the first and second control signals received via the receiver, and to control the audible notification mechanism based on an order of receipt of the first control signal and the second control signal.

84. (New) The system of claim 83, wherein in response to receipt of the first control signal followed by receipt of the second control signal within a first predetermined time period, operation of the audible notification mechanism is restricted for a second predetermined time period, and wherein in response to receipt of the second control signal followed by receipt of the first control signal within a third predetermined time period, operation of the audible notification mechanism is allowed.

85. (New) The system of claim 83, wherein the restricted device is a member of the group consisting of a cellular telephone, a PDA, a pager, and a wrist watch.

86. (New) The system of claim 83, wherein each of the first and second control signals are implemented using a wireless technology selected from the group consisting of an ultrasound technology, an infrared technology, and a radio frequency technology.

87. (New) The method of claim 86, wherein the restricted device further comprises a microphone coupled to the microcontroller, the microphone adapted to receive the first and second control signals implemented using the ultrasound technology.

88. (New) A method for selectively controlling an audible notification mechanism of a restricted device within a defined area, the restricted device including a receiver, a device transmitter, and a microcontroller operatively coupled to the device transmitter and receiver, the method comprising:

receiving a first control signal from a first transmitter located proximate to the defined area; and

receiving a second control signal from a second transmitter located proximate to the defined area; and

controlling operation of the audible notification mechanism based on an order of receipt of the first control signal and the second control signal.

89. (New) The method of claim 88, further comprising:

muting the audible notification mechanism for a first predetermined time period upon receipt of the first control signal followed by receipt of the second control signal within a second predetermined time period; and

unmuting the audible notification mechanism to allow operation upon receipt of the second control signal followed by receipt of the first control signal within a third predetermined time period.

90. (New) The method of claim 88, wherein first and second control signals are implemented using a wireless technology selected from the group consisting of an ultrasound technology, an infrared technology, and a radio frequency technology.

91. (New) The method of claim 90, wherein the restricted device further comprises a microphone coupled to the microcontroller, the microphone adapted to receive the first and second control signals implemented using the ultrasound technology.